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SEMANTIC DIFFERENTIAL ANALYSIS OF TEACHER AND YOUTH COMMUNICATION IN VOCATIONAL AGRICULTURE.

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A sample of 240 vocational agriculture students enrolled in 21 Illinois high schools and their teachers participated in a study to determine whether different groups of students placed different connotative meanings on certain words and phrases important to vocational agriculture. The students, in four grade levels, were classified into three socioeconomic groups. Teachers and students indicated on a semantic differential instrument the connotative meaning of 11 words and phrases--learning by doing, leadership, cooperation, Future Farmers of America, farming, vocational agriculture, agricultural mechanics instruction, supervised farming programs, nonfarm agricultural occupations, on-farm instruction, and teacher of agriculture. Comparisons of results were made between student groups by grade and socioeconomic stratification and between student and teacher groups. Some findings were (1) A different connotative meaning was placed on the words "leadership" and "cooperation" by groups classified by socioeconomic level, (2) Students not residing on farms felt that "agricultural mechanics instruction" was more important than did farm resident students, (3) Teachers were more in agreement with junior and senior students concerning meanings than with freshmen and sophomores, and (4) All pupil groups agreed with the teacher group on the meaning of "cooperation" and "Future Farmers of America." The complete report is available as ED 010 181. (WB)

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AGRICULTURAL EDUCATION DIVISION
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VOCATIONAL AND TECHNICAL EDUCATION DEPARTMENT
UNIVERSITY OF ILLINOIS, URBANA, ILLINOIS, 1967

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Sincere thanks go to 21 teachers of agriculture who spent many hours assisting in data collection and to the high school administrators and pupils who cooperated with the researchers in the conduct of the study. The teachers of agriculture and the locations of high schools in which they taught are listed below.

Teacher of Agriculture	*Location of High School*
Gene Buhrmester	Monticello
Russell Lewey	Rantoul
Lawrence Gregory	DeLand
Edwin W. Sauer	Fisher
Kermit E. Esarey	St. Joseph
B. R. Littlefield	Broadlands
James De Young	Armstrong
Gene Elliott	Farmer City
Oscar Brewer	Atwood
Rolla Mitchell	Villa Grove
E. A. Crump	Potomac
Lowell Hillen	Champaign
David Sistler	Arthur
Oscar Ingram	Bement
Gordon Combs	Catlin
Kenneth Knell	Mahomet
C. H. Crowley	Gibson City
Nelson Roberts	Arcola
Williford Hockett	Oakwood
John Kinney	Bellflower
Don Prather	Cerro Gordo

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Introduction

Communication between people having similar experience backgrounds is commonly accepted to be easier than communication between people having dissimilar experience backgrounds. A teacher of agriculture can communicate more easily with another teacher of agriculture than he can communicate with someone having an experience background as different as, for example, that of the Prince of Monaco. Likewise, communication between the sons of farm hands is easier than communication between the son of a farm hand and the son of a wealthy industrialist. The ease of communication between those having similar experiences is in part due to the placement of similar connotations upon the words and phrases used by them in communication.

The thoughts, feelings, attitudes, and other reactions which come to mind in response to a word or phrase is its connotative meaning. A word or phrase may have pleasant connotations to one person but have unpleasant connotations to another person who has a different experience background. Perhaps the word "scholarship" does not appeal to the socioeconomically disadvantaged youth but does appeal to the more advantaged youth. The disadvantaged youth may even feel nauseated when the word "scholarship" is mentioned. In this study, one of the main objectives was to determine whether or not different socioeconomic groups of pupils studying vocational agriculture placed different connotative meanings on certain words and phrases which are of importance to vocational agriculture. The connotative meanings placed on the words were also compared for pupils at the different grade levels in high school. Another objective was to learn whether or not pupils in certain high school grades or in certain socioeconomic groups were more in agreement with the group of vocational agriculture teachers studied concerning the connotative meaning of words and phrases than were pupils in other

grade and socioeconomic groups studying vocational agriculture. The third objective concerned whether or not teachers of agriculture better understood the connotative meaning placed on words and phrases by their pupils in certain socioeconomic or high school grade groups than pupils in other socioeconomic or high school grade groups.

Specifically, the objectives were to answer the following questions:

1. Do different socioeconomic groups of vocational agriculture pupils place different connotative meanings on the words and phrases being studied?
2. Do different high school grade groups of vocational agriculture pupils place a different connotative meaning on the words and phrases being studied?
3. Do teachers agree with one grade group of pupils more than with another grade group of pupils concerning the connotative meaning of the words and phrases studied?
4. Do teachers agree with one socioeconomic group of pupils more than with another socioeconomic group of pupils concerning the connotative meaning of the words and phrases studied?
5. Can teachers of agriculture predict the connotative meaning which one socioeconomic group of their pupils places on the words and phrases being studied better than for other socioeconomic groups of pupils?
6. Can teachers of agriculture predict the connotative meaning which one high school grade group of their pupils places on the words and phrases being studied better than for other high school grade groups of pupils?
7. Do pupils from farms studying vocational agriculture place a different connotative meaning on the words and phrases being studied than pupils who are not from farms?

Teachers of agriculture have been in the forefront among high school teachers in considering individual differences of pupils in their teaching. This has been possible because teachers of agriculture have been well acquainted with their pupils and have been trained to know what individual differences demand in terms of teaching methods. In order to continue in the forefront, teachers of agriculture will need to become acquainted with any new information concerning individual and group differences, and they will need to consider such information in their teaching.

Some differences in pupils by socioeconomic classes and by grade level in high school were found in this study. Some misconceptions by teachers

of agriculture concerning vocational agriculture pupils in general were also found.

One of the major tasks in teaching high school youth is clarifying definitions of words, but the meaning of a word as *defined* is not the same as the connotative meaning of a word. The connotative meaning of a word is the composite of thoughts, feelings, attitudes, and other psychological reactions brought to mind by the word. The way a pupil defines a word can be changed with much less difficulty than the connotative meaning of a word can be changed.

Poor communication caused by differences in connotative meaning between teachers of agriculture and their pupils can be improved in two ways. One way is the creation of a greater understanding of the differences in connotative meaning placed upon words by different individuals. A second possibility is the changing of connotations words have for various people. The latter possibility is more difficult than the first. For the most part, educators will have to try to understand the connotative meanings individuals and groups of individuals place on words and phrases and not rely entirely upon making the connotative meaning of words more uniform among pupils.

Stratification of Pupils into Socioeconomic Groups

A description of the technique used to stratify the pupils into socioeconomic groups and some information concerning the kind of pupils who make up these groups is important in helping the reader make use of the findings reported. Pupils were separated into socioeconomic groups by the use of the Sims SCI (Social Class Inventory) Occupational Rating Scale. This instrument was filled out by the pupils themselves. It contained listings of various occupations and the pupils were asked to rate the people engaged in these occupations as being higher, lower, or the same status as the pupil and his family. By rating people engaged in the occupations, the pupils placed themselves at a certain level on the hierarchy of occupations which extended from janitor to United States ambassador. The validity of the results was checked by having the teachers furnish information concerning the family background of the pupils.

The Sims SCI Occupational Rating Scale produces scores which are usually divided to form seven socioeconomic groups. Pupils in the three top socioeconomic groups as defined by Sims were not found in the vocational agriculture classes studied; however, pupils in the other four

classifications were found. Pupils in the two lowest of the Sims classifications were combined in the study into one socioeconomic class because few pupils were in the lowest class and because pupils in both of the two lower classes as defined by Sims were the kind of pupils which have been labeled as economically disadvantaged youth in recent federal legislation.

The *lowest* of the three socioeconomic groups studied contained pupils who considered themselves to be at a social level similar to that of farm hands, factory workers, house-to-house brush salesmen, automobile mechanics and telephone operators.

The *middle* of the three socioeconomic groups studied contained pupils who considered themselves to be at a social level similar to that of neighborhood grocery store owner-operator, railroad ticket agents, and bookkeepers for a store.

The *highest* of the three socioeconomic groups studied contained pupils who considered themselves to be at a social level equivalent to that of high school teachers, real estate salesmen, druggists, and large farm owner-operators.

The pupils in the lowest socioeconomic group were mainly sons of farm hands or other day laborers. Sons of farm renter-operators appeared in the two bottom socioeconomic groups with about equal frequency. Sons of farm owner-operators dominated the highest socioeconomic group of pupils used in the study.

Certain other information would help the reader know what kinds of pupils made up the socioeconomic groups. The Social Class Identification score of a pupil was based both on the pupil's status position and that of his family. A pupil may have a higher SCI score than his father would have if the pupil felt his potential would help him to move into higher prestige occupations. Also, the pupil may have a lower SCI score than his father would have if the pupil felt his potential was lower than that of his father. Very religious persons tend to have lower SCI scores than their economic position would indicate. Pupils with nonfarm backgrounds and economic positions similar to that of farm pupils had a slightly higher social position as indicated by their SCI scores.

The Measurement of Connotative Meaning

The instrument used to measure the connotative meaning of the eleven words and phrases studied was a semantic differential[1] instrument.

[1] Charles E. Osgood, *The Measurement of Meaning* (Urbana, Illinois: University of Illinois Press, 1957).

FIGURE 1. THE SEMANTIC DIFFERENTIAL INSTRUMENT USED IN THE STUDY AND A SET OF HYPOTHETICAL DATA*

Nonfarm Agricultural Occupation

1. unimportant:	___	___	___	___	___	X	___	:important
2. meaningful:	___	___	___	X	___	___	___	:unmeaningful
3. bad:	___	___	___	___	___	___	X	:good
4. successful:	___	___	X	___	___	___	___	:unsuccessful
5. pleasant:	___	___	X	___	___	___	___	:unpleasant
6. wise:	___	___	___	X	___	___	___	:unwise
7. strong:	___	___	X	___	___	___	___	:weak
8. hard:	___	___	___	___	___	X	___	:soft
9. active:	___	___	___	X	___	___	___	:passive
10. slow:	___	X	___	___	___	___	___	:fast

* The adjective having the highest scale value appears on the left on all the scales except 1, 3, and 10.
Note: Digits were assigned for computation purposes as follows:

bad:	___	___	___	___	___	___	___	:good
	1	2	3	4	5	6	7	

Such an instrument differentiates connotative meaning of words in terms of certain adjectives which are opposite in meaning. An example of the adjectives are "good" and "bad." A respondent indicated how good or bad a certain word seemed to him by the placement of a check mark on a seven-unit scale. The respondent then described how he felt about the word in terms of other adjectives which were opposite in meaning, such as "pleasant" and "unpleasant" and "important" and "unimportant." The instrument used to measure the connotative meaning consisted of ten such pairs of adjectives. These adjectives appeared at each end of seven-step scales.

Each individual in the study marked the ten scales for each of the eleven words or phrases being studied. An example of the responses of one individual concerning the connotative meaning of the term "nonfarm agricultural occupation" appears in Figure 1. The raw data were check marks which correspond to one of the seven positions on the scales. A number was assigned to each of the seven positions on the scales. The set of numbers from one to seven was used.

Words and Phrases Studied

The primary objective of the study was to study individuals rather than to study words. A list of words were necessary and these words were selected from the important aspects of the vocational agriculture program. The words and phrases used in the study were the following:

1. Learning by doing
2. Leadership
3. Cooperation
4. Future Farmers of America
5. Farming
6. Vocational agriculture
7. Agricultural mechanics instruction
8. Supervised farming program
9. Nonfarm agricultural occupation
10. On-farm instruction
11. Teacher of agriculture

The Sample of Pupils and Teachers Studied

Pupils studying vocational agriculture in 21 high schools near the University of Illinois in a six county area and their teachers of agriculture were included in the study. The study was restricted to those schools in which the teacher of agriculture had already served at least one year. The connotative meanings placed upon words by the entire group of teachers were studied; however, the connotative meanings of only a sample consisting of about half of the pupils were studied. The pupils included in the sample were taken from those who had studied agriculture during each year of high school, with the exception of a very few juniors and seniors who had started in vocational agriculture as sophomores. Eight girls studying vocational agriculture were excluded from the study.

Pupils were classified into three socioeconomic groups in each of four high school grades by use of the Sims SCI Occupational Rating Scale. A sample of 240 pupils, 20 pupils from each of the 12 classifications, indicated the connotative meaning they placed upon the words and phrases being studied. The teachers also marked what the words meant to them, and at a later time they predicted the connotative meaning of the words and phrases for their pupils by marking forms identical to those filled out by the pupils. They were asked to mark the forms as they felt their pupils marked them.

Statistical Treatment

To determine whether or not a different connotative meaning was placed on the 11 words or phrases by different groups of individuals, a

multivariate analysis of variance was employed. Multivariate procedures allow more than one variable to be considered simultaneously. In this study, ten variables were considered. They were the raw scores corresponding to the positions checked on the seven-step scales between the ten pairs of adjectives on the semantic differential instrument. Certain of the statistical tests were multiple classification tests. The groups of individuals being studied were classified by both socioeconomic and high school grade groups. The statistical tests were made at the 95 percent level of confidence.

The Meaning of Words to Pupil Groups

The group of 240 pupils studied were classified two ways. One classification was by socioeconomic group and the other classification was by grade in high school. Three socioeconomic groups of pupils at each of the four high school grade levels were included in the sample. The meaning of the words and phrases to the pupils when classified into socioeconomic groups will be presented first.

For pupils in the different socioeconomic groups, there was a statistically significant difference in meaning for words "leadership" and "cooperation," but the other nine words studied did not have significantly different meaning for different socioeconomic groups of pupils.

The meaning of leadership. Two out of three socioeconomic groups of pupils differed significantly (.01 level of significance) from each other concerning the meaning they placed upon the word "leadership." These two groups were the highest and the lowest socioeconomic groups. The lowest socioeconomic group of pupils placed the highest value upon the word "leadership" and the highest socioeconomic group of pupils placed the lowest value upon the word "leadership." The middle socioeconomic group was not significantly different from the other two groups of pupils concerning the value placed upon the word "leadership." Pupils in the middle socioeconomic group valued the word "leadership" less than the pupils in the low socioeconomic group, but they valued it more than pupils in the high socioeconomic group. As the socioeconomic level of the pupils increased, the value they placed on "leadership" decreased. As will be explained later, this same trend was found for many of the other words studied.

How can the fact that the pupils in the lower socioeconomic groups valued the word "leadership" more highly be explained? The most plau-

sible explanation is simply, to use a rural saying, that the "grass on the other side of the fence always looks greener." Pupils who enjoy high social status have traditionally been the ones who have been elected to leadership positions and those from the poor families are seldom elected to leadership positions. What the low status pupils do not have becomes more important, more meaningful, more pleasant, and actually has a better connotative meaning to them than to pupils of higher socioeconomic status.

What are the implications of this finding for the teaching of vocational agriculture? The main implication is that teachers of agriculture need to influence the present leaders in FFA to allow low socioeconomic pupils to assume some positions of leadership in regular offices or as chairmen of important committees. The chairmanship of the banquet committee or program committee would provide a pupil an opportunity to fulfill a leadership role as well as an opportunity for improvement of his social standing.

Nominating committees should be used for the selection of officers rather than allowing every office to be filled according to popularity. The importance of ability and willingness to perform the duties required in a position of leadership should be explained to the present officers of the FFA. Social barriers or lack of popularity on the part of the disadvantaged pupil should not be allowed to keep him out of positions of leadership.

The meaning of cooperation. The pupils' socioeconomic level was related to the word "cooperation." The middle socioeconomic group of pupils valued "cooperation" significantly more highly than did the highest socioeconomic group of pupils. The value placed upon the word "cooperation" by the lowest socioeconomic group of pupils was less than that placed on it by the middle socioeconomic group of pupils, but the difference was a neglible one.

The significant difference which existed in the connotative meaning placed on the word "cooperation" by the middle socioeconomic group and the highest socioeconomic group is difficult to explain. Perhaps the highest socioeconomic group feels that "cooperation" is less important to them because they are not as dependent upon the cooperation of others. The higher socioeconomic group is in a position to be more dictatorial. Higher socioeconomic status pupils may feel more independent in their actions and, therefore, value "cooperation" less than other socioeconomic groups of pupils.

If disadvantaged youth were all hostile and rebellious, as many seem to think they are, teachers and others would expect the low status group of pupils to place little value on "cooperation." The low socioeconomic group of pupils did in fact place a slightly lower value on "cooperation" than the middle socioeconomic group, but it was not lower than that of the highest socioeconomic group of pupils. Perhaps the low socioeconomic group of pupils in this study does resist cooperation to some extent, the middle group may think cooperation is a "good thing," and maybe the high socioeconomic group feels that they can get what they want without being very cooperative. The implication of this finding could only be that the highest socioeconomic group of pupils and, to some extent, the lowest socioeconomic group, should be taught to value "cooperation" as much as the middle socioeconomic group already values it.

A finding which was reported earlier was that the higher the socioeconomic level of a pupil, the lower the pupil values the word being rated. An examination of the average scale positions checked by pupils on all adjective scales for each word revealed that the value placed upon words goes down as socioeconomic status goes up. Only three exceptions to this trend existed. The middle socioeconomic group of pupils placed a higher value on "nonfarm agricultural occupation" than did the lowest group. The highest socioeconomic group of pupils valued "supervised farming program" slightly more than did the middle socioeconomic group of pupils. The value placed upon "cooperation" by the middle group was higher than that of the lower socioeconomic group but only when carried to three places beyond the decimal point. Therefore, for practical purposes, there was only one exception in 11 words studied to the trend of an increasing socioeconomic class level being associated with a decreasing value being placed on the words and phrases studied. What could account for this kind of trend being found? It is believed that the more important a pupil feels, the less importance or value he is willing to attribute to any word or phrase on a semantic differential instrument. It should be remembered that pupils were classified into socioeconomic groups on the basis of their willingness to place themselves above other people working in different occupations.

The pupils when grouped by high school grade showed no significant differences in the connotative meaning for any of the 11 words studied. This finding could mean that a pupil's connotative meaning of the words studied does not change between October, the month the data were collected, of the freshman year and the same time in the senior year of high school.

The Meaning of Words to Farm and Nonfarm Pupils

The connotative meanings placed upon the 11 words and phrases by 183 pupils who resided on farms were compared with the connotative meanings placed upon the same words and phrases by 57 pupils who did not reside on farms. Multivariate analysis of variance identical to that used to compare the connotative meaning words had for the teacher group and for the pupil groups was used. The only word or phrase which was significantly different in connotative meaning at the .05 level of significance was "agricultural mechanics instruction."

The pupils residing on farms and those not residing on farms differed most in the *importance* they placed upon "agricultural mechanics instruction." The authors were not surprised to learn that the pupils residing on farms and those not residing on farms placed significantly different connotative meanings on "agricultural mechanics instruction," nor to find that the greatest difference concerned the importance and unimportance of "agricultural mechanics instruction," because agricultural mechanics in the past has been the part of the vocational agricultural program which has the most interest for pupils not residing on farms.

Pupils not residing on farms did not value "agricultural mechanics instruction" more highly in terms of all adjectives used to describe the words and phrases. They felt "agricultural mechanics instruction" was *less* "successful," *less* pleasant, and *less* strong than did the pupils from farms. It seems that the pupils not residing on farms think agricultural mechanics is very important and they would prefer that it be emphasized more (become more successful and stronger). The group of pupils not residing on farms seemed to feel that nearly all the words and phrases were less pleasant than did the group of pupils from farms.

Comparison of the Meaning for Words Between Teachers and Pupils

The connotative meaning placed upon each of the 11 words and phrases by the group of teachers was compared to the meaning each of the 12 groups of pupils placed on the words and phrases. Twelve statistical tests were made for each of the 11 words studied. A statistically significant difference between the connotative meaning of a pupil group and the connotative meaning of the teacher group existed

in only about 14 percent, 19 out of 132, of the tests. Significantly different results were found between at least one pupil group and the teacher group for all the words or phrases studied except two. All 12 groups of pupils agreed with the teacher group concerning the connotative meaning of "cooperation" and "Future Farmers of America."

No significant difference existed in the frequency with which the three socioeconomic groups of pupils agreed with the teacher group concerning the connotative meaning of the words and phrases. A striking difference, however, existed in the frequency with which high school grade groups of pupils agreed with the teacher group concerning the connotative meaning of the words and phrases. Nearly four times as many freshmen and sophomore pupil groups differed from the teacher group than junior and senior groups. Fifteen of the 19 significant differences between pupil and teacher groups were among the freshmen and sophomore groups. The agreement concerning the connotative meaning of words and phrases between the pupils in the upper high school grades and the teachers was due to a higher value being placed upon the words and phrases by the pupils in the upper high school grades. As expected, the teacher group placed a higher value on the words and phrases than did any of the pupil groups.

Why would junior and senior pupils agree more with the teacher group concerning the connotative meaning of the words and phrases studied than would the freshman and sophomore groups? Perhaps increased exposure to the teacher of agriculture and the vocational agriculture program would explain the finding. Another explanation, which is not as complimentary to teachers and the program, is that only those who agree with their teachers concerning the connotative meaning of the words and phrases continue the study of vocational agriculture. Also, in Illinois, most boys are at the end of the sophomore year when they reach the legal age for leaving school. The authors tend to think all of the above explanations are valid to some extent in explaining why junior and senior pupils were more in agreement with the teachers concerning the connotative meanings of the words and phrases studied than freshmen and sophomores.

The findings indicated that pupils, as a rule, do agree with their teachers concerning the connotative meaning of words which are of importance to vocational agriculture, but the groups which do differ from their teachers are more likely to be freshmen and sophomores than juniors and seniors. The best possibility for teachers to improve the connotations of the words to freshmen and sophomores, as well as pupils in

other grades, is to conduct the most energetic and dynamic program of vocational agriculture they can conduct. Also greater effort in teaching pupils, especially freshmen and sophomores, the *defined* meaning of some of the words studied is recommended. A great deviation in the scale scores usually indicates that the pupils are not sure about the defined meaning of a word or phrase. The deviation in scores indicating connotative meaning among pupils in the lower grades was greater than that among pupils in the upper high school grades. The deviation in scores indicating connotative meaning for pupils in all grade groups was relatively high for the phrase "nonfarm agricultural occupation," and such a deviation was expected because the term is a relatively new one.

The Understanding by Teachers of the Connotative Meaning Placed on Words by Pupils

The vocational agriculture teacher of each of the 240 pupils studied completed a semantic differential instrument as they felt each of their pupils had completed it. The difference in the scores of the pupils and those predicted for them by their teachers was an indication of the degree to which the teachers understood their pupils concerning the particular words and phrases being studied. The difference in scores were in units or fractions of units on a seven-unit scale. The maximum mistake in prediction which could be made by teachers on one scale was six, and the minimum was zero. Each teacher had to place a check mark on ten, seven-unit scales for each of the words or phrases studied. The average amount of error for each check mark placed was computed for each of the twelve classifications of pupils consisting of three socioeconomic groups at each of four high school grade levels. The mean error in prediction, when considering the predictions made for all classifications of pupils, was 1.08 units on the seven-unit scales. The lowest error made by the teachers in the prediction of connotative meaning of pupils was for the highest socioeconomic group of seniors, and the highest error in prediction was for the lowest socioeconomic group of sophomores. The next highest error in prediction was for the lowest socioeconomic group of freshmen. A decreasing error in prediction accompanied an increasing grade level and an increasing socioeconomic level. The average error in prediction of connotative meaning of pupil groups by their teachers is presented in units of a seven-unit scale in Table 1. The difference in the scores which indicated the connotative meaning of the pupils and the

TABLE 1. MEAN DISCREPANCY BY GRADE LEVEL AND SOCIOECONOMIC LEVELS IN SCALE UNITS ON A SEMANTIC DIFFERENTIAL INSTRUMENT BETWEEN SCORES INDICATING PUPIL MEANING AND SCORES INDICATING TEACHERS' PREDICTED PUPIL MEANING FOR ALL PUPILS FOR ELEVEN WORDS AND PHRASES*

Secondary School Grade Level	*Discrepancy Scores on Scales by Socioeconomic Levels of Pupils*			
	Low	Middle	High	All
9	1.16	1.06	1.12	1.11
10	1.20	1.08	1.11	1.13
11	1.11	1.06	1.06	1.08
12	1.02	1.05	.98	1.02
All	1.12	1.06	1.07	1.08

* Predicted meaning for pupil groups refers to the meaning, as indicated by the location of check marks on seven-unit scales, which teachers think their own pupils place on the eleven stimulus concepts studied.
Note the decreasing mean scale discrepancy accompanying an increased grade level and an increased socioeconomic level.

scores of the prediction of the pupil's connotative meaning by teachers were different enough to be significant for every pupil group. For this reason, the predictions could not be considered to be accurate ones.

Teachers underestimated the values their pupils placed on all the words and phrases used in the study. Because the lowest socioeconomic group placed the highest value on the words studied, the lowest socioeconomic groups of pupils were underestimated the most.

The difference in the accuracy of predictions made by teachers for the various groups of pupils was not statistically different. Even though teachers underestimated the value their pupils placed on the words and phrases studied, the difference in the underestimation from group to group was not different enough to show a statistical difference. The data used in the statistical test just mentioned were in a more summarized form than that used in the other statistical tests in the study. The raw data analyzed were the sums of discrepancies between the scale values checked by the pupils and those predicted for them by their teachers for each of the words or phrases studied. Instead of having ten items of data to compare, only one item of data was compared for each word or phrase studied.

Summary of Findings

The objectives of the study were stated in the beginning of the report as questions to be answered. The questions and brief answers to them are given.

1. *Question.* Did different socioeconomic groups of vocational agriculture pupils place different connotative meanings on the words and phrases which were studied?

Answer. Yes, a different connotative meaning was placed on the words "leadership" and "cooperation" by the groups classified by socioeconomic level.

2. *Question.* Did different high school grade groups of vocational pupils place a different connotative meaning on the words and phrases being studied?

Answer. No, a different connotative meaning was not placed on any of the 11 words or phrases by the pupils classified by high school grade.

3. *Question.* Did teachers agree with one grade group of pupils more than with other grade groups of pupils concerning the connotative meaning of the words and phrases which were studied?

Answer. Yes, teachers were more in agreement with junior and senior pupils concerning the connotative meaning of the words and phrases than with freshman and sophomore pupils.

4. *Question.* Did teachers agree with one socioeconomic group of pupils more than with other socioeconomic groups of pupils concerning the connotative meaning of the words and phrases which were studied?

Answer. No, teachers did not agree with one socioeconomic group of pupils more than with another socioeconomic group concerning the connotative meaning of the words and phrases studied.

5. *Question.* Did teachers of agriculture predict the connotative meaning one socioeconomic group of their pupils placed on the words and phrases studied better than for other socioeconomic groups of pupils?

Answer. The teachers' predictions of connotative meaning for pupil groups were better for pupils in the higher socioeconomic groups, but the difference in accuracy was not statistically significant. The conformity to the trend in the case of socioeconomic groups of pupils in nearly all high school grades was rather convincing, however.

6. *Question.* Did teachers of agriculture predict the connotative meaning one high school grade group of their pupils placed on the words and phrases studied better than for other high school grade groups of pupils?

Answer. The teachers' predictions of connotative meaning for pupil groups were better for the pupils in the upper high school grades, but the difference in accuracy was not statistically significant. The conformity to the trend in the case of all four high school grade groups was rather convincing, however.

7. *Question.* Did pupils from farms studying vocational agriculture place a different connotative meaning on the words being studied than pupils not residing on farms?

Answer. Yes, the pupils who resided on farms and those who did not reside on farms placed a different connotative meaning on one of the phrases studied. The group of pupils not residing on farms felt "agricultural mechanics instruction" was more important than did the group of pupils from farms.

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